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ABSTRACT

A total of 26 handicapped and nonhandicapped preschool children between 3 and 5 years of age were grouped into play groups of three or four children and observed playing in the groups over a 7-week period. Children were provided with toys that were identified as social, such as dolls or wooden building blocks, or isolate, such as puzzles and books. In each observation session, data were collected on each subject by means of a 10-second time sampling technique that was used over a 5-minute interval. Social interactions or their absence were recorded. Results indicated that, for all ages, children who played with social toys exhibited more social interaction than did children who played with isolate toys. Among children who played with social toys, 5-year-olds exhibited more social interactions than did 3- or 4-year-olds. Handicapped children exhibited a greater difference in the number of social interactions in the social toy and the isolate toy conditions than did nonhandicapped children. When playing with either type of toy, nonhandicapped children exhibited more social interactions than did handicapped children. (BC)

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The Effect of Social and Isolate Toys on the Social Interactions of Preschool-aged Children in a Naturalistic Setting

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ABSTRACT

The differences in the social interactions of preschool-aged nondisabled and disabled children in two toy conditions was investigated. Social toys and isolate toys were presented in a systematic manner to 26 children aged 3-5 years for approximately 7 weeks. Results indicated that the 5-year-old children displayed more social interactions in the social toy condition. Further, the disabled subjects displayed more social interactions in the social toy condition. Nondisabled subjects had a higher rate of social interactions in both toy conditions as compared to the disabled subjects.

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For years special educators working with preschool students have been developing and refining strategies to promote social interactions among young children with disabilities. Much of this work is reported in the literature and research involving the integration of young handicapped and nonhandicapped children (Peterson & Haralick, 1977; Bricker, 1978).

One strategy used to increase the social interactions among children involves the use and manipulation of different toys and playthings. Some literature in this area has focused on nonhandicapped, at-risk, or disadvantaged children (Quilitch & Risley, 1973; Hendrickson, Tremblay, Strain, & Shores, 1981, Stoneman, Cantrell, & Hoover-Dempsey, 1983). Other studies have focused on handicapped and nonhandicapped young children in integrated settings (Beckman & Kohl, 1984; Martin, Brady, & Williams, 1991). These studies suggest that certain toys and playthings can increase social interactions among children. In these studies toys have been identified as either being social toys (promoting social interactions) or isolate toys (promoting more solitary play). Those playthings identified as social toys include blocks, toy cars and trucks, dress-up clothes, housekeeping materials, and dolls. Those playthings identified as promoting more isolate play include books, puzzles, and art materials, e.g., paper, crayons, *Play-Doh*.

In addition to the type of toy available, there is also an indication that the number of toys available can influence social interactions among children (Johnson, Christie, & Yawkey, 1987; Rubin & Howe, 1985). These researchers indicate that when the quantity of toys available is reduced, social interactions including sharing and cooperation, as well as aggressive behaviors tend to increase. Rubin and Howe (1985) suggested that to increase social interactions educators should limit the toys available. However, no specific or optimum number of toys per child has been identified.

A study conducted by Martin, Brady, and Williams (1991) is an example of recent research conducted to determine the influence of social versus isolate toys on children's social interactions. These researchers addressed the relationship between the type of toy available and the child's behavior by manipulating both the toys available and the children available. Their study utilized 24 children between 4-5 years of age, 18 of the children were disabled and 6 were nonhandicapped. Children were divided into groups of 6 children with some groups being integrated and some groups composed of only handicapped children. Subjects were exposed to the two toy conditions, social toys and isolate toys. The social toy condition contained toys such as balls, dress-up clothes, and toy vehicles. The isolate toy condition contained toys such as puzzles, books, art materials, and *Play-Doh*. There was no indication of how many toys were provided. Data was collected for 5

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days using a 10 second time-sampling interval technique. Results indicated that social interactions among children were highest in the social toy/integrated group condition and lowest in the isolate toy/nonintegrated condition. Results further indicated that there were significantly more social behaviors in the social toy condition than in the isolate toy condition. In addition, the authors indicated that the type of toys available appeared to effect the nondisabled and disabled children differently. While social behaviors across the two toy conditions were fairly stable for the nonhandicapped children, social behaviors were increased for the disabled subjects in the social toy condition. Though not reported as being significant, this finding does indicate that social toys seem to increase the social interactions of children with disabilities.

The purpose of this study was to investigate the influence of social toys versus isolate toys on the social interactions of both handicapped and nonhandicapped children. Specific research questions included: (a) Is there a significant difference in the frequency of social interactions as a function of the type of toy available? (b) Is there a significant difference in the frequency of social interactions as a function of the toy available and the age of the child? (c) Is there a significant difference in the frequency of social interactions as a function of the type of toy available and whether children are disabled or nondisabled?

METHODOLOGY

Subjects

Twenty-six nonhandicapped and disabled children participated in this study including 10 boys and 16 girls at two separate sites. Subjects included 12 nondisabled children and 16 children who displayed primarily mild to moderate disabilities. Subjects included 9 three-year-olds, 9 four-year-olds, and 8 five-year-olds. Of the 26 children participating in this study, 18 subjects were at one site and 8 subjects were at a second site. The handicapped subjects at the first site were all primarily speech/language impaired or developmentally delayed. One child displayed Downs Syndrome and another child displayed Williams Syndrome. Two of the nondisabled subjects attended a Head Start classroom in the facility. The 8 subjects at the second site were diagnosed as speech/language delayed with one subject having a mild hearing impairment.

Setting

The study was conducted in two similar and equivalent early childhood special education programs at population centers in rural western Kansas. In each site a separate play area was set up outside of the regular classroom setting. The play areas in each site were similar to the day-to-day play site that the children were accustomed to attending. Each play area was approximately 10' X 10' in size and contained a table with chairs, shelves for toys, and an open play space. The play area contained only "social" toys or "isolate" toys and the toys were alternated every other day. No other play materials were available.

Materials

The toys used in this study were those identified by previous researchers as being either social or isolate (Beckman & Kohl, 1984; Martin, Brady, & Williams, 1991). The social toys consisted of 2 dolls with clothes, 10 wooden building blocks, 6 cars and trucks and a Fisher Price playhouse with accessories. Isolate toys included 2 containers of *Play-Doh*, three 9-piece puzzles, 6 books, and crayons/pens and paper. The amount of play materials were purposely limited.

Procedure

A total of 26 subjects participated in this study. Subjects were grouped by age as closely as possible and were then divided into play groups of 4 children each. The preschool schedules of the children participating determined in part when children were grouped and brought to the play area. A total of 4 play groups were established at the first site and 2 play groups at the second site. The 4 play groups at the first site were integrated or mainstreamed in nature. The 2 play groups at the second site only included disabled children. Two children in the first site participated in play groups when a subject was absent. This helped to maintain a total of 4 children in each play group during each session. In cases in which only 3 children were present in a play group, one of the toy

materials was removed so that the number of toy materials matched the number of children in the play group.

Each group of subjects was brought to the play area by the observer each school day for approximately 7 weeks excluding holidays and school breaks. A 30 minute time period was provided for subjects to play. The observer instructed the subjects to *"Go play."* The observer was positioned just outside the play area to minimize adult-child interactions. If a child initiated an interaction with the observer they were ignored and/or redirected to *"Go play."* At the end of each 30 minute play period the observer returned subjects to their classrooms, organized the play area, and escorted the next group of subjects to the play area.

Data Collection

Interobserver reliability measures were obtained prior to data collection by having two independent observers simultaneously observe and record child behaviors. Each observer recorded the interactions of an individual child for 5 minutes using a 10 second time-sampling technique. Inter-observer reliability was computed between observers (r = .915). In addition, inter-observer reliability was also rechecked periodically throughout the study. Inter-observer reliability was maintained at .92 throughout data collection.

Data was collected on each subject who was observed for a 5 minute interval, utilizing a 10 second time-sampling technique with each of the 4 subjects in a play group being observed within the 30 minute play period. The order in which children were observed each day was randomly selected. Within each of the 10-second observation intervals the observer would note any occurrence of social interactions. Social interactions were defined as any interaction between 2 or more children, either verbal or nonverbal, positive or negative. Any occurrence of a social interaction during the 10-second observation interval was recorded on the data sheet as a "+." If no social interactions occurred in that 10 second interval a "-" was recorded. The number of pluses was totaled at the end of each session for each subject.

Results

The purpose of this study was to investigate the influence of social toys versus isolate toys on the social interactions of young children. Data was collected for approximately 7 weeks (February to April) at two different sites. A total of 665 observations were recorded during this time. Data was analyzed using the t-test for independent samples to determine if there were significant differences in the frequency of social interactions among subjects. The results of each research question are presented below.

Is there a significant difference in the frequency of social interactions as a function of the type of toy available? Results indicated that there was a significant difference in the number of social interactions among subjects. The frequency of social interactions was significantly higher in the social toy condition for all subjects ($p < .001$). Table 1 indicates that the mean number of social interactions across sites and age groups was greater in the social toy condition. Site 2 where the subjects had been diagnosed as being speech/language delayed showed the greatest difference in the frequency of social interactions among subjects with significantly more social interactions occurring in the social toy condition ($p<.001$).

TABLE 1
Frequency of Social Interactions for Social and Isolate Toy Conditions

Variable	Social toy X	Isolate toy X
Age		
3 Year Olds	8.13	5.62
4 Year Olds	6.18	4.83
5 Year Olds	9.04	4.38 *
Sites		
Site No. 1	6.52	5.37
Site No. 2	10.48	4.04 **
Subjects		
Disabled	7.55	3.82 **
Nonhand.	8.05	6.79
All Subjects	7.74	4.97 **

* $p<.01$ ** $p<.001$ N = 26

Is there a significant difference in the frequency of social interactions as a function of the toy available and the age of the child? Table 1 shows significantly more social interactions for 5 year olds in the social toy

condition ($p < .01$) than for any other age group. However, no significant differences in the frequency of social interactions were noted for 3 and 4 year olds even though the frequency of social interactions was higher in the social toy condition for both age groups.

Is there a significant difference in the frequency of social interactions as a function of the type of toy available and whether the child was disabled or nondisabled? Table 1 indicates that disabled subjects showed significantly more social interactions in the social toy condition ($p < .001$). Nondisabled subjects did not show significant differences in the frequency of social interactions in either toy condition even though the mean frequency of social interactions was greater in the social toy condition. Nondisabled subjects did show a higher frequency of social interactions in both toy conditions as compared to the disabled subjects. The frequency of social interactions in the isolate toy condition for the nondisabled subjects was twice that of the disabled subjects.

Discussion

The results of this study indicate that social toys promote a higher frequency of social interactions than do isolate toys for both nonhandicapped children and children with disabilities. Of particular interest is the finding that social interactions by the disabled subjects were significantly higher in the social toy condition. This finding should encourage early childhood special educators to make use of social toys as a means of increasing social interactions among children with disabilities.

The results also indicated that the frequency of social interactions for 5-year-olds was significantly higher in the social toy condition, but was not significantly higher for the 3 and 4-year-old children. This finding is probably not surprising since 5-year-olds would be expected to display a higher frequency of social interactions in general. Though not statistically significant, the frequency of social interactions for 3 and 4-year-olds was higher in the social toy condition versus the isolate toy condition. This would suggest that social toys could be used to increase social interactions even with younger children.

The finding that the nondisabled subjects did not have significant differences in social interactions between the social and isolate toy conditions is consistent with those found by Martin, Brady, and Williams (1991). In their study the nonhandicapped subjects showed interaction patterns which were *"fairly stable"* across toy conditions. This finding would suggest that nonhandicapped children may be less influenced by the type of toy available and will tend to interact regardless of what toys are available.

The results of this study indicate that social toys do influence in a positive way the frequency of social interactions among children and especially among children with disabilities. However, only the quantity of interactions were measured in this study. No attempt was made to evaluate the quality of the interactions among children. Comments from the observers in this study did indicate that the majority of the interactions among children were positive. Interactions that were not positive generally involved disputes regarding toy *"ownership."*

These findings do suggest that teachers should provide social toys during free play activities to help increase the number of social interactions between children. The finding that disabled children seem more influenced by the type of toy available warrants further research in this area. In addition, further research is needed to determine if there is an optimal number of toys per child that should be made available to increase social behaviors. The number of toys, as well as the type or variety of toys available may influence both the quantity and quality of the social interactions observed in children's play.

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